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ABSTRACT

A study of textual cohesion in the oral discourse of learners of English as a second language had as subjects 19 Asians from 4 language backgrounds, who were living and, in most cases, studying English in the United States. Analysis of taped conversations focused on the use of conjunctive adjuncts of three kinds: (1) simple adverbs (e.g., and, but, so, next) used to provide cohesion between sentences, (2) compound adverbs (e.g., furthermore, nevertheless), and (3) prepositional expressions (e.g., as a result of that). The conversations were coded for omission, insertion or substitution, and contextual error of conjunctive elements. The frequency of causal, adversative, additive, and temporal conjunctions was calculated for language background group and English proficiency level. It was found that, contrary to expectation, most conjunctive relations were correct but that most were external and not mandated by the speaker's desire to impose cohesion on his or her communication. The expectation of a high rate of omission errors was also contradicted, with substitution errors the most common and omission errors the least common. It was also found that the subjects who were studying English never omitted a required conjunctive adjunct and that neither the proportion of conjunctive adjuncts used nor the proportion of errors was related to proficiency level or language background, except for the Thais. (MSE)

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Cohesion in Interlanguage:

A Study of Conjunction[1]

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Cohesion in Interlanguage:

A Study of Conjunction

Cohesion consists of the devices which relate spoken or written sentences to each other and make them into a text, not just a sequence of unrelated thoughts. It is the term Halliday and Hasan use for the semantic (meaning) relation between an element in a text and another element that is crucial to its interpretation (1976:8). The one element presupposes the other in the sense that it cannot be effectively decoded except by recourse to the other (Halliday and Hasan, 1976:4). Generally, cohesion refers to an inter-sentence, not an intra-sentence, tie. Halliday and Hasan (1976) describe five basic types of cohesion: reference, substitution, ellipsis, conjunction, and lexical cohesion. This paper is concerned only with conjunction.

Since cohesion consists of the ties between sentences, it is essential to the study of both spoken and written discourse. In previous decades, linguists have shown relatively little interest in discourse analysis. Most linguists of the 1940's and 1950's were interested only in the micro-levels of linguistic analysis. Their work fell between the capital letter and the period. They could not get involved in the relations between sentences because they believed in linguistic analysis without reference to meaning. Harris (1952) attempted to define a framework for discourse analysis in structuralist terms, with the frames being paragraphs rather than sentences, and the fillers being sentences rather than words. However, his analysis failed because it did not take into account the change in

meaning relationships resulting from the insertion of different sentences into the frames. Discourse was treated as if it were merely a suite of sentences.

Subsequently, although linguists have claimed that you cannot study syntax without semantics (i.e., form without meaning), they have still avoided discourse analysis. While Katz and Fodor (1964) insisted on the need for a semantic component to interpret syntactic strings generated by a transformational grammar (Chomsky, 1957), a notion incorporated in Chomsky (1965), they, like other linguists, maintained that (1) syntax and semantics are separate; (2) the domain of a semantic theory is the interpretation of sentences, not texts; and (3) linguists are not responsible for interpreting language as it functions in diverse social contexts (Katz and Fodor, 1964). These notions explain the reluctance of most American linguists to move into the arena of discourse analysis. The move by generative semanticists to integrate the study of syntax and semantics (e.g., the change in thought described by G. Lakoff, 1970:ix) did not directly lead to the study of discourse since analysis continued at the sentence level.

There have been exceptions among American linguists, of course, such as Kenneth Pike (1954-60/1967), who has been interested in language in its broadest context for about forty years. But, generally, the impetus to study discourse has come from other parts of the world or other disciplines: from British linguists such as Crystal and Davy (1969) and Halliday and Hasan (1976); from American sociologists such as Sacks, Schegloff, and Jefferson (1974); from rhetoricians such as from Austin (1962) and Searle

(1969); and from language acquisition researchers such as Bates (1976) and Ervin-Tripp and Mitchell-Kernan (1977).

In second language acquisition research, Hatch (1978) and Peck (1978) have applied Sacks' (1972) and Schegloff's (1972) conversational analysis to their data of both adult and child second language learners. Keller-Cohen (1979) has analyzed the role of repetition and lexical cohesion in the development of conversational structure by child second language learners.

This paper does not attempt to study the entire process of cohesion in interlanguage, but rather analyzes the problems in conjunction encountered by nineteen Asians living in New York City. In the paper, we attempt to: (1) define conjunction; (2) categorize conjunction in native English; (3) present the findings of research on second language learners' problems with conjunction; and (4) discuss the implications of the research for second language teaching.

Definition of Conjunction

Linguists and teachers are used to using the term "conjunction" for words like "and" when they connect noun phrases, clauses, or sentences. Halliday and Hasan refer to "conjunction" as the process of cohesion which ties one sentence to another. The "and" which conjoins two noun phrases in

(1) I like ham and eggs.

is structural; it does not provide cohesion between sentences and is therefore not part of this process. Textual cohesion is achieved through

conjunction by using what Halliday and Hasan call "conjunctive adjuncts." There are three kinds of conjunctive adjuncts: (1) simple adverbs (e.g., and, but, so and next), which are coordinating conjunctions that can be used to provide cohesion between sentences; (2) compound adverbs (e.g., furthermore, nevertheless); and (3) prepositional expressions (e.g., as a result of that) (Halliday and Hasan, 1976:231). Most of these conjunctive adjuncts occur sentence initially. They also occur, however, intrasententially, where they connect not full sentences, but rather two independent clauses or an independent and a dependent clause. This paper intentionally deviates from Halliday and Hasan (1976) by including this type of conjunction in the analysis. (The rationale for this change is given in the next section of this paper.)

Halliday and Hasan also classify all conjunctive adjuncts into two types of use: external and internal (1976:241). External use means that the need for conjunction is inherent in the external phenomena that we describe--i.e., in the things we are talking about. For instance, when we introduce a speaker with a short bio-data statement, the chronological order of events in the speaker's life imposes an external need for sequential ordering and conjunction. On the other hand, conjunction is said to be internal when the relations we describe are inherent in the communication process itself, as realized between two interlocuters. For example, if a speaker clarifies his/her point by saying that is or in other words, the conjunctive adjunct has internal use, as in the following sequence:

(2) Isabelle is grouchy, insensitive, dull as dish water,
and she never stops talking.

The need to express this relation is inherent in the communication process (in the speaker's needs), not in the outside world.

If an ESL learner describes the chronological order of some events by using first and next in a composition, he/she is employing an external use of these words. An example of this would be:

(3) First, the Shah left Iran. Next Bakhtiar tries to rule the country. Then Khomeini returned. Finally, chaos broke loose.

But the same words can be used internally if the writer is merely imposing his/her own feelings of what to write about first. For example:

(4) First, I will define conjunction in Halliday and Hasan's terms. Next, I will report the results of my empirical research study. Finally, I will discuss the implications of my findings.

The most important aspect of Halliday and Hasan's classification of cohesion through conjunction is the division of conjunctive elements into four basic semantic categories: (1) additive; (2) adversative; (3) causal; and (4) temporal. All groups have many subcategories, but the basic semantic division is best understood by looking at the list of elements that typify each category. A given element can be used to express various conjunctive relations, but usually it is primarily associated with one semantic group. The additive relation is typified by the use of and, or, and nor. An additive relation can also be expressed by furthermore, that is, or likewise. The adversative semantic group is most typically identified with but, yet, however, and nevertheless. But expressions like in fact, instead, and at any rate also convey the

adversative relation between sentences. The causal relationship is typically associated with so, therefore, and because, but it is also expressed by consequently, otherwise, and even then. Then is more often associated with the temporal relationship, along with next, after that, previously, and first. Halliday and Hasan's Summary Table of Conjunctive Relations (1976:242-3) gives an extensive subclassification of many conjunctive adjuncts, but for purposes of remembering the general framework, it is useful to associate each of the four categories with one simple adjunct which typifies them:

additive . . . . . and

adversative . . . . . yet

causal . . . . . so

temporal . . . . . then

(Halliday and Hasan, 1976:239)

The Study

The data presented here are derived from studying the speech of nineteen Asians, from four language backgrounds, working or studying in New York City. Twelve were studying at the American Language Program (ALP) at Columbia University: four Chinese (speakers of Waiwanese Mandarin), four Japanese, and four Koreans. Two of each of these groups of students were at the low intermediate level, and the other two were at the low advanced level. The remaining seven subjects, all Thais, were working (not studying) in New York. They came from three socioeconomic levels, high, mid, and low (established in Beebe, 1974). All nineteen subjects were interviewed individually in English and taperecorded by a

native English-speaking, male graduate student from New Jersey. In each case, the only data examined were those derived from a discussion on one topic--food. Subjects were asked about the availability of ingredients for cooking their native dishes and their familiarity with American food while in their own country. The interviewer, who had lived in Asia for two years, requested instructions on how to make the Asian dishes mentioned.

The research involved coding all the conjunctive adjuncts used by the subjects according to the categories in Halliday and Hasan's (1976) description of English. (No attempt was made to elicit a large number of conjunctive adjuncts.) Each conjunctive adjunct was first coded as additive, adversative, causal, or temporal. Then it was coded as external or internal in use.

Because this was a study of taped conversations, not written discourse, it was to be expected that it would be difficult to ascertain when a conjunctive adjunct was used as a textually cohesive tie--that is, linking one sentence to one or more other sentences in the text--and when the same lexical item was a structural tie linking one clause to another. It is more difficult to study cohesion in spoken than in written texts because capitalization and punctuation cues are missing and partial sentences are used frequently in casual conversation. As Crystal and Davy (1969:110) point out:

> Informal conversation is characterized by a large number of loosely coordinated clauses, the coordination being structurally ambiguous; it is an open question whether one takes these as sequences of sentences or as single compound sentences.

In any case, Kroll (1977, cited in Ochs, 1979) found that only 7.1% of clauses were subordinate in unplanned discourse as compared with 20% of clauses in planned discourse.

Since this was a study of non-native speech, it was not only difficult, but virtually impossible, to analyze reliably where a sentence began and ended. Being non-native speakers, the subjects interviewed did not always use native English intonation, and therefore intonation could not be relied upon to identify sentence boundaries. Two clauses conjoined with and could not reliably be distinguished from two sentences with an additive and at the beginning of the second sentence. Furthermore, the distinction between the structural tie and the cohesive tie in this type of example was felt to be more important to the theory of discourse analysis than to the practical implications of the data discussed in this paper.

Therefore, a heretical, though not arbitrary, decision was made to ignore Halliday and Hasan's distinction between a structural and a textually cohesive tie where we would have to rely on a questionable distinction in the data between a clause and a sentence boundary. (Of course, where simple coordination of noun or verb phrases was involved, the distinction was maintained.) In other words, this study not only deals with inter-sentence cohesive ties via conjunctive adjuncts, but also includes intra-sentence adverbial and conjunctive elements which tie one clause to another. Thus, the items coded for this paper include words not mentioned at all in Halliday and Hasan, because they are structural (e.g., when, if...then), in addition to items which can be cohesive but were used as structural ties in these data (e.g., because introducing a dependent clause). Also

included are items not mentioned in Halliday and Hasan because they are interlanguage equivalents of connectives (e.g., at this year for at that time). These coding decisions reflect the needs dictated by a study for non-native language use, a study of speech rather than writing.

Another adaptation of Halliday and Hasan's scheme made for the purpose of studying the non-native speaker's interlanguage was to code conjunctives as correct or incorrect. The decisions about correctness were difficult, and generally subjective--that is, they were based on native-speaking coders' intuitions. Sometimes the source of error was ambiguous, and several corrections seemed possible. Once the coder subjectively judged that a given piece of text was incorrect (i.e., it "sounded wrong"), and that the error was due to a conjunctive element, incorrect items were viewed as omissions, insertions, or substitutions.

If the conjunctive element was missing, it was an omission. In the following example, a conditional clause was understood, yet the subject failed to introduce it with if:

(5) . . . Yeah, pepper. Is up to you. [IF] you like it hot, you put too much. Pepper, shrimp, and tomato. Tomato.[2]

The insertion of if provides the missing logical link, even though it does not solve all the problems (e.g., the use of too much for a lot).

If a conjunctive adjunct was present, but was wrong in logical relationship, it was coded as either an insertion or a substitution. Insertions were those instances where the connected sentences sounded logically related when the cohesive element was deleted, but sounded illogically related when it was present. In example (6), the insertion of so creates an illogical tie between the two sentences:

(6) Basically, I like Korean food but in America I have no choice. So I have to eat to survive.

So makes I have to eat to survive into a clause of result, but it is apparent that the speaker was simply elaborating on his statement, I have no choice. Deletion of the inserted so solves the problem.

Insertions were sometimes difficult to distinguish from substitutions. The principle governing the coding of substitution, however, was that the item could not be an insertion because deletion, when tried, did not correct the problem. Some connective was clearly required--just not the one used. Example (7) illustrates the problem of deciding whether a particular conjunctive was an insertion or a substitution. In this case, it appeared that the speaker substituted as for when:

(7) But as I came here and settled down, and then I discovered that here's an international city.

In addition, the speaker inserted and then. The sentence flows smoothly if corrected to:

(8) But when I came here and settled down, I discovered that here's [this is] an international city.

Errors of substitution were coded to show what semantic category and subcategory the incorrect conjunctive belonged to. Then the correct conjunctive was established, coded semantically, and determined to be internal or external. In this way it was possible to see what general problems the subjects had.

Omission, insertion, and substitution were thought to be all inclusive catgories, but analysis of some items showed that a conjunctive adjunct

was sometimes unacceptable in a particular instance, not because it was omitted, not because it was inserted in a place that didn't need such an adjunct, and not because it was substituted incorrectly for another adjunct, but simply because the context for it was wrong. Substituting another item would not correct the problem. The context had to be reworded to make the item acceptable, but the item itself was logically acceptable, even necessary, in this position and meaning. This latter situation was coded as an error of "context." An example of this was found in the data for a Chinese subject. When asked if it was difficult for him to get Chinese food when he first came to New York, he replied:

(9) "Yes, it's difficult. I can't eat Chinese food very often."

The surprised interviewer asked why, and the subject replied:

"Uh, because we can eat found Chinese restaurant in here."

Because is correct in form and logic, but this is an error in context since the because of reason should not supply a reason which supports the opposite of the claim one is making.

Conjunctives were distributed throughout the four semantic categories. The largest number of conjunctives was in the causal category, next the adversative, then the additive and temporal. It would be interesting to know if native spoken discourse reflects the same order of frequency. The order for correct conjunctives was the same, but for incorrect ones it was: causal, additive, adversative, temporal. (See Table 1.)

Results and Analysis

Because non-native speakers of English often sound to native listeners as if their speech is somewhat disjointed, a high error rate in conjunctive

cohesion was expected overall, with an especially high rate for errors of omission. Fewer insertions were expected. In other words, it was hypothesized that non-native speakers use fewer conjunctive adjuncts than needed in their speech. Interestingly, this was not the case. Eighty-three percent (23% out of 28%) of all conjunctive relations were correct. The order of frequency of conjunctives within each semantic category was causal, adversative, additive, temporal for both correct conjunctions and totals, while for incorrect conjunctions it was causal, additive, adversative, temporal. (See Table 1.)

Insert Table 1

Eighty-four percent of the conjunctive elements had external use, whereas only 13% were clearly internal. The vast majority of conjunctive devices used were, thus, mandated by the facts of an external situation, not by the non-native speaker's wish to impose cohesion on his communication.

Not only was the expectation that there would be a high error rate in conjunction overall proved false, but also the expectation that there would be a high proportion of errors of omission was proved false. In fact, very few of the errors that did occur were due to omission of a conjunctive adjunct. The number and percentage of the four general types of error is given in Table 2. The table demonstrates that omission was the least common type of error; substitution was in fact the most common.

Insert Table 1

The twelve ALP students never omitted a required conjunctive adjunct. The seven Thais made all the errors of omission and the majority of other

errors. Their interviews were on the same topic, but lasted longer. Table 3 shows the distribution of errors by first language background of the

Insert Table 3

subjects. A chi-square test of homogeneity[3] was not significant, suggesting that first language background, work versus study, and length of interview did not influence the distribution of types of error among the four language groups. Neither the proportion of conjunctions used to the number of words in the text, nor the proportion of errors of conjunction to the number of conjunctions used varied significantly according to the level of proficiency or language background for the ALP students. However, for the Thais, the proportion of errors of conjunction to conjunctions used was twice that for the ALP students (23% as compared with 11%), even though the proportion of conjunctions used to words in the text was about the same for the two groups.

Of the 288 conjunctions used, the most common conjunctions (and, but, because, and so) accounted for 196 tokens (68%). If we add and then and if, we account for 79%. This is not really surprising since native speakers also tend to rely on the most common conjunctions in unplanned discourse, too (Ochs, 1979). However, 66% of the errors also involved the four most frequently used conjunctions, while only 4% involved and then and if.

Table 4 shows the distribution of errors by error type and semantic category used. Errors of omission were about evenly distributed across the categories of addition, cause, and time. Errors of insertion were distributed evenly across all four semantic categories. But errors of substitution were proportionately higher in the adversative category, while errors of context involved causal conjunctions more frequently.

Insert Table 4

Having seen the overall pattern of the findings, we now examine in detail each category of error: omission, insertion, errors of context, and substitution. We both describe the errors and attempt to account for them, where appropriate, in terms of one or more of the following factors: interference, overgeneralization, order of difficulty/acquisition, lack of mastery, and semantic relatedness.

Omission

Omissions, which were expected to be very prevalent in non-native speech, turned out to be quite restricted. All five omissions were by three of the seven Thais, none by the students of other language backgrounds. The only connectives involved were and, when, and if...then.

And was omitted twice by the same speaker, once when it was needed to express an additive relation and once to express a temporal relation. In this speaker's interview, and was required ten times, but was supplied correctly only five times. It appears that the speaker had not yet mastered the use of and.

Another speaker failed to use when once to express a simultaneous temporal relation, although he also used when correctly on one occasion to express the same relation. While he made no errors in expressing a sequential temporal relation, which he did five times, he made a substitution error with a simultaneous temporal relation. This suggests that the simultaneous temporal relation is acquired later than the sequential temporal relation. In fact, Clancy et al. (1976) found in a cross-linguistic study

of first language acquisition that simultaneity was acquired as a concept a year or more later than sequence.

The third speaker twice failed to express a conditional causal relation. In both cases, the omitted conjunctive was *if*, although in one case it could have been *when* with a conditional meaning. Neither *if* nor *when* was used at all, suggesting either that the speaker did not know them or was avoiding them.

The fact that the three speakers, all Thais, omitted different conjunctions which were needed to express different semantic relations suggests that interference is an unlikely explanation for these errors. The most likely explanation seems to be that the required conjunctives were not yet acquired. What is noticeable is that, for the two speakers who made two errors of omission each, in one case both errors were with the same conjunction, *and*, and in the other case both errors were within the same semantic category and subcategory, causal conditional. Thus, even with so few errors we can say that these errors appeared not to be random, but systematic.

Insertion

The non-native speakers in this study inserted conjunctive adjuncts more frequently than was anticipated. There were fourteen insertion errors, accounting for 28% of all errors in conjunction. When we look at the insertions, we find that it is the most common conjunctive adjuncts which are most frequently inserted where they aren't needed. Nine (64%) of the insertions involved *and*, *but*, and *so*. This figure goes up to 79% if we add *and then* and *or* to the list.

The Thais made ten of the fourteen insertion errors, with two speakers each making three errors and four making one error each. Four of the ALP students made one error each: two Chinese low advanced students, one Japanese low intermediate, and one Korean low intermediate. Thus, at the ALP, where proficiency level was controlled, the number of insertions was the same at the low and high proficiency levels. However, the proportion was higher among the low level group.

Two Thais made two of the three insertion errors involving and. One of these was the same speaker who omitted and twice. We discussed his problems with and in the previous section. The other made this one mistake, no other errors of conjunction at all. But since he used only two conjunctions during his interview, and seven times and too once, we cannot claim that he has mastered and. Before we could claim that, we would have to show that he used and correctly in contrast with a variety of other conjunctions.

The third insertion error with and was made by a Chinese high intermediate ALP student, who used and correctly ten times. All eleven times, and was used with an additive meaning. The only other error this student made was an error of context; this error was also with an additive conjunctive adjunct, I mean. Two other additive expressions were used correctly, for example and for instance. Thus, this student's error rate for additive conjunction was 14% (2/14).

Of the three insertion errors with but, again two were made by Thais, and the third was made by a Japanese low intermediate ALP student. One of the Thais used but three times in all, but none correctly. Apart from the insertion error, he made two substitution errors, suggesting that he

did not know the correct use of but. The other Thai made one substitution error with but in addition to the insertion error, but used it correctly six times. This speaker, who was the one having trouble with and, expressed the adversative relation correctly nine times out of twelve. Thus he appeared to be on the way to mastering the use of adversative conjunctions.

The ALP student used but correctly twice, giving an error rate of 33% with but. He also used though correctly in an adversative relation. This was his only error, and in fact the only error made by any of the Japanese subjects.

So was inserted by two Thais and one Korean low intermediate ALP student. One of the Thais used so correctly on three occasions; the other used it correctly once. The Korean student used so correctly four times. For the second Thai and the Korean, the insertion of so was their only error in conjunction. In all three cases, so was not used frequently.

The remaining five insertions involved one each of the following conjunctions: first, because, otherwise, or, and and then. The last one was inserted by a Chinese high intermediate ALP student. The first four were errors made by Thais. Since first, otherwise, and or were each used only once or twice in all the data, we shall not discuss them further. But because and and then were both used frequently. The Thai who inserted because also used because in the wrong context twice, while using it correctly on three other occasions. With a 50% error rate, it seems he had not fully acquired because as a causal conjunction of reason. The Chinese student who inserted and then once also used it correctly, and used two other conjunctions correctly to express a sequential temporal relation.

Again, it seems this student may not have fully acquired and then as a sequential temporal conjunction.

The most probable explanation for all the insertion errors thus appears to be that these non-native speakers were overgeneralizing the use of the conjunctions concerned. In all cases, the problem appears to be knowing the restrictions on use of a particular conjunction. This becomes especially clear when we examine the pattern of errors for each subject.

Errors of Context

As for insertion, there were fourteen errors of context, nine made by four of the Thais and five by four of the ALP students. Eight of the fourteen (57%) involved causal conjunctions: six with because and two with so. Five involved additive conjunctions: two with and, one with another reason, one with I mean and one with for example. The remaining conjunction was the adversative but.

We have already discussed, in the previous section, the two errors of context with because made by the Thai who inserted because where it was not needed. His third context error was with another reason, an additive conjunction.

Another Thai made three errors of context with causal conjunctions: one with because and two with so. Since he used a causal conjunction correctly only one (so), he too appears not to have mastered the use of causal conjunctions in English.

A third Thai made one context error with because. He used because correctly on three other occasions, and so correctly three out of four times too. (The fourth so was an insertion.) He appears to have almost

mastered the use of causal conjunction. He made no other errors of context, and in fact made only four errors in a total of 34 conjunctions he used during his interview.

The remaining two errors of context with a causal conjunction were both made by a Chinese low intermediate ALP student. Both errors were with because. Overall, this student used only four conjunctions, the other two being so (another causal) and too (additive), both used correctly. With so few tokens we cannot say that he has mastered the English conjunction system.

Since six of the eight errors of context with causal conjunction were made by Thais, who made only three additional errors of context, all with additives, we suspected that these errors might be due to interference. However, close examination of the context of each error with a causal conjunction showed no influence of Thai. Nor did the three errors of context with additives, which we now examine.

We have already mentioned the Thai who used another reason as well as because in errors of context. Possibly, he understood another reason to be not an additive but a causal, but either way it was an error of context. This was the only additive conjunction he used, although he did use and to express both adversative and causal relations correctly. It appears that he has not mastered how to express additive relations in English.

The Thai who made the other two errors of context with an additive used and both times. He used and correctly only once as an additive, although he used it correctly three times (and made no errors) as a temporal conjunction. He expressed an additive on only one other occasion, correctly, using too. Again, the problem appears to be one of mastering English additive conjunctions.

The remaining two errors of context with additives were made by two ALP students: a Chinese high intermediate and a Korean low intermediate student. The Chinese student used I mean incorrectly. During his interview he expressed an additive relation correctly twelve out of fourteen times (the other error being one of insertion--see discussion above), using a variety of conjunctive adjuncts. This could be a performance error.

The Korean student made an error of context with for example. He also made a substitution error with an additive, I mean, and expressed an additive relation correctly only once, with like. Thus he appears not to have mastered the use of additive conjunctions in English yet.

We have already ruled out interference as a possible explanation for errors of context for the Thais, and it seems unlikely that interference could account for the errors of context by the ALP students. In each case the best explanation seems to be that the speakers are at varying levels of mastery of the use of the conjunctions they made errors with. If we had had enough tokens we might have been able to plot the systematicity/variability of use of the different conjunctive relations. That these non-native speakers are systematic in their use of English conjunctions is revealed in the following section, on substitution.

Substitution

Findings. Although it was an unexpected finding that there were more insertions than omissions, the hypothesis that there would be a relatively high proportion of substitutions was confirmed. Substitution was the most frequent type of error, accounting for 34% of all mistakes in cohesion through conjunction.

Errors involving substitution of one conjunctive element for another were examined in order to compare the semantic category of the incorrect element used and correct element needed. The semantic categories (additive, adversative, causal, and temporal) were arranged from left to right on the coding charts in that order--the order in which Halliday and Hasan present them (1976:Chapter 5). A striking spatial pattern emerged on the coding sheets suggesting that non-native speakers' substitution errors are more systematic than we expected. Sixty-five percent of the substitutions involved using an incorrect element from the correct semantic group, indicating that basic logical relationships are maintained in almost two-thirds of the instances. This is not really surprising. In fact, we might expect that non-native speakers would have made even fewer errors of semantic category in spoken discourse. After all, as adults, they surely command the notions of addition, contrast, causation, and time in their own languages.

What is intriguing is that, when the substitution involved using a conjunctive element from another semantic group, a regular pattern governed the substitution. A hierarchy of substitution patterns emerged, as seen in Table 4.

Insert Table 4

The subjects substituted a conjunctive element from the same semantic category or the immediately preceding one of the table. There was one exception to this rule. Additives, which were listed first on the left, had no preceding category. They were always replaced by other additives or by conjunctives from the immediately following category, i.e., adversative. Thus substitution was always made in the same semantic

category or an adjacent one, and where possible it moved from right to left on Table 5.

Insert Table 5

Table 5 presents the pattern of substitution errors with semantic categories listed in the same order found in Halliday and Hasan (1976:242-243). Maintaining this order could be justified on the argument that it reflects decreasing generality (i.e., additive is the most general, and contains adversative; adversative contains causal; causal contains temporal; and temporal is the least general). However, Table 5 presents a visual difficulty since it is to be read from right to left and bottom to top, contrary to normal reading conventions for English. Table 6 gives an alternative visual presentation, which brings out the substitution patterns.

Insert Table 6

Analysis

We must ask if this pattern could be due to chance. If not, why did this particular hierarchy emerge? In attempting to find answers to these questions, we are hampered by the fact that the subjects made only seventeen substitution errors, with only six being substitutions from an adjacent semantic category, and the remaining eleven being substitutions within the same category. (See Table 7.) Nonetheless, it seems unlikely that the pattern is due to chance.

Insert Table 7

We might explain the substitution of adversatives for additives by showing that and has an adversative meaning. But this explanation is unsatisfactory because and with an adversative meaning was coded as a correct adversative. If someone says, "Bankers are rich" and two others reply:

(10) A: My brother is a banker.

B. And he isn't rich.

this is a correct adversative, not a substitution of and for but. This could not therefore explain the data. Nor can we pin the full blame on the possibility of an adversative meaning for and because actually English and has not only additive and adversative meanings, but also causal and temporal meanings. The following sentences show a causal connection using and:

(11) A: She took a hundred sleeping pills

B: And she died.

The temporal sequence is illustrated by

(12) A: She bought a dress.

B: And (then), she went home.

In fact, Bloom et al. (1980) found that and was the first conjunction children learning English as their first language used to code each of the conjunctive relations. Thus, a student might confuse the use of and for but, since it has that meaning, or use but for and since but has a meaning that "contains and" (Halliday and Hasan, 1976:237) as well as a use where the two words are semantically the same. Seven of the eleven substitutions by Thais involved and and but. Two of these seven were substitutions of but for and, while the other five were substitutions

within the same category. Only one of these five involved the substitution of and for another additive for instance. The other four were substitutions within the adversative category of but for although, and and (with adversative meaning) for in fact, anyway, and but. These substitutions seem to show clearly a process of overgeneralization, in which a more common conjunction is substituted for a less common one.

Two of the six substitutions by ALP students involved substitution of an additive for an adversative, i.e., in the opposite direction to the Thais' substitution errors confusing additive and adversative. In these errors, both by Korean students, the substitution involved using a somewhat less common conjunction, I mean or and also, instead of the more common but. The low intermediate student who made the substitution error with I mean is the one, discussed in the section on errors of context, who used for example incorrectly. As said above, he appears not to have mastered the use of English additive conjunctions yet. The other student was at a high intermediate level. He used but correctly three times, but used no additives apart from and also, which he substituted for but. It would seem that he has not yet differentiated the use of additive and adversative conjunctions in English. This student also made a substitution error with a causal conjunction, to be discussed below.

These two errors substituting an additive for an adversative were the only ones in which ALP students substituted a conjunction from an adjacent semantic category. It seems possible that these students picked up the less common conjunctions in class and overgeneralized them to inappropriate contexts, while the Thais, who were working rather than

studying, overgeneralized the more common conjunctions, reflecting a difference in input and intake.

Only one error involved the substitution of an adversative, but, for a causal, so. This error was made by a Thai who also made substitution errors within the semantic categories of additive, adversative and causal, and between the categories of causal and temporal. The two errors involving causal conjunctions were both substitutions of so, in one case, so then for if...then, and in the other, so for the temporal then. We discussed his errors with but in detail in the section on insertion errors, and suggested he was approaching mastery of English adversative conjunctions. His substitution of but for so could, thus, be seen as a reflection of uncertainty as to the use of so rather than as a problem with but. However, he used so correctly in a similar context only two sentences after the sentence containing the error. So this could be a performance error. But and so do not seem to be semantically related.[4]

Semantic relatedness does, of course, partially account for this same speaker's substitution error within causal conjunction: the use of so then for if...then. It also appears to account for the two substitution errors within causal conjunction made by two Korean high intermediate ALP students. These involved the substitution of at that case for when (or in that case), and of then for so. The first of these two errors could, of course, be simply a usage error, reflecting a mis-learning of the expression in that case. The second error is a clear case of semantic relatedness between so and then. Since the speaker used so on only one other occasion, correctly, and did not use then elsewhere in his interview, we cannot establish whether or not the error involves lack of mastery.

Since causal and temporal relations are semantically similar, it is not surprising that the Thai speaker mentioned above made a substitution here, especially since it involved using a causal (so) for a sequential temporal adjunct (then), not a simultaneous temporal adjunct (e.g., as). Bloom et al. (1980) found that semantic relations encoded by conjunctions for children learning English as their first language emerged in the order: additive, temporal, causal, adversative. However, so was used to express a causal relation before then was used to express a temporal relation. This might suggest that the speaker had not yet acquired then as a temporal conjunction, and was overgeneralizing so to cover both causal and temporal relations. However, the data showed that the speaker always used then correctly as a temporal adjunct (seven times). On the other hand, so was used correctly only four out of six times, suggesting that so may not have been fully acquired. Thus, we conclude that the error involving the substitution of but for so discussed earlier was in fact not a performance error but, as in this case, a result of non-mastery of so.

The remaining three errors were substitutions within the category of temporal conjunction. One error of substitution, by a Thai, appears to have been a problem of usage rather than straight substitution--he substituted at this year for at that time.

A Chinese high intermediate ALP student made the other two errors, substituting as for when; that is, a simultaneous temporal conjunction was used for a sequential temporal conjunction. Since he did not use any other simultaneous temporal conjunctions, but did use correctly sequential temporal conjunctions three out of four times (the error was an insertion discussed above), this cannot be explained as an overgeneralization of

simultaneous temporal conjunction. However, it could be that he had not acquired the use of simultaneous temporal conjunctions in English. Interestingly, no other non-native speaker in this study even attempted as, suggesting that the expression of simultaneity is acquired late. This has been found to be true in the first language acquisition of English, German, Italian and Turkish (Clancy et al., 1976). In fact, the children studied did not start to express simultaneity until at least a year after starting to express sequence. The children in Bloom et al.'s (1980) study did not express simultaneity at all, but they were younger than Clancy et al.'s subjects. It seems, therefore, that the order of difficulty of sequence and simultaneity parallels the order of acquisition of these concepts in child language acquisition.

If we take number of substitution errors within each semantic category needed (Table 7) as representative of the order of difficulty of encoding

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Insert Table 7

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semantic relations through conjunction, then we find the order of difficulty to be, from easiest to most difficult, additive, temporal, causal, adversative. We must add a reminder there that errors with temporal conjunction include two errors of simultaneous temporal conjunction, the only two attempts at expressing simultaneity in all the data. In effect, the order of difficulty is, then, additive, sequential, causal, adversative, with simultaneity not being encoded at all except by the one speaker. This order of difficulty parallels exactly the order of acquistion of English conjunction that Bloom et al. (1980) found for child first language acquisition.

Thus, order of difficulty and semantic relatedness appear to account for the substitution errors. Interference does not appear to be the problem at all, just as it appeared not to account for any of the other types of error: omission, insertion, and errors of context.

Discussion

Two findings apply to all types of error. The first, as stated above, is that interference from the native language does not explain any of the errors by the non-native speakers of English in the present study. The second is that, where a speaker made more than one error, his errors followed a pattern which tended to reflect difficulty either with a particular conjunction, or with a particular semantic category. Thus each speaker's variability was, in a sense, systematic (cf. Tarone et al., 1976).

Lack of mastery of a particular conjunction or of a semantic category was the explanation found most frequently for errors of omission, insertion and context. Errors of insertion were also considered to be instances of overgeneralization, as were substitution errors. As mentioned above, the Thais (who were all working, not studying, in New York) never substituted an uncommon connective (e.g., otherwise) for a common one (e.g., and, but) even though they used uncommon connectives correctly elsewhere. They always used the more common ones for equally common or less common ones. On the other hand, the ALP students (Chinese, Japanese and Koreans) substituted only less common connectives (e.g., I mean, as) for others. Overgeneralization may explain both of these findings. It may be that the working Thais overgeneralize what they hear every day, whereas the student subjects overgeneralize more uncommon words they meet while studying. However,

the Thais did insert less common conjunctions (e.g., otherwise), while the ALP students only inserted common conjunctions, giving us conflicting evidence as to the role of overgeneralization. There seems to be a relationship between error type (substitution vs. insertion) and common vs. less common conjunctions.

For substitution errors, two additional explanations were given: (1) that the conjunction substituted was semantically related to the conjunction needed, and (2) that the order of difficulty, as reflected in number of errors within each semantic category, corresponded with the order of acquisition.

The problem with the second of these explanations is that the total number of errors within each semantic category (Table 1) is not distributed evenly across the four error types (Table 4). Thus, for substitution errors, we suggested the following order of difficulty, based on number of errors within each semantic category: additive, temporal, causal, adversative; but there are no omission errors of an adversative, only one error of context, and only three insertions. For each error type the order of difficulty is different. However, substitution is, in fact, a different kind of error from the other error types. Omission, insertion, and errors of context reflect uncertainty as to the selectional restrictions on the use of conjunctions, whereas substitution errors reflect confusion as to how to express the semantic relations between the presupposed and presupposing clauses. Thus, while omission, insertion and errors of context may be considered errors of form, substitutions are errors of meaning. In this way, we can resolve the apparent contradiction between differing orders of difficulty.

Implications

As we have seen, omissions were relatively unimportant factors in producing somewhat disconnected-sounding speech, accounting for only five errors by three Thais. The vast majority of non-native speakers in the present study did not omit a single conjunction where one was required. Even counting all the errors, not just omissions, we account for only 17% of the conjunctions used, the remaining 83% being correct. Thus, we wonder whether native speakers' subjective impressions that the non-native speech was disjointed reflected actual fact. However, we must trust our native intuitions that something was amiss. After all, Halliday and Hasan (1976) describe four other types of cohesion in addition to conjunction, and certainly other factors such as turn-taking and topic switches will be important in determining how cohesive a text sounds. We can assume that conjunction is only one small part of the problem.

As for the finding that substitution is the most frequent type of error, next context and insertion, and least common simple omission, there are immediate practical implications for the teaching of discourse. The finding implies that the least helpful technique in getting students to use conjunctive devices for cohesion in speaking or writing is to give them a list of terms with the suggestion that they use them. In most cases, students are not omitting conjunctive devices; they are putting them where they are not needed, using them in the wrong context, or substituting improper ones. Providing a list will not solve these problems.

Yet a careful survey of ten popular ESL texts revealed that listing conjunctive adjuncts is the most common way of teaching cohesion. Asking students to compose speeches and compositions using conjunctions from a

list will probably lead to more errors unless discrimination exercises are used to help students learn the grammatical and semantic restrictions associated with each expression of conjunction (cf. Zamel, 1980).

We must also remember that 66% of the errors in conjunctions used by the nineteen subjects of the study in conversation involved the four most common words: and, but, so, and because. Our major task seems to be teaching appropriate use of these four familiar words, especially since only 75%, not 100%, of the subjects used and. Those who did not use it were all low proficiency students. The same is true of but. Those who did not use it were low proficiency students. The data indicate that the use of and is proportionately higher with high proficiency students. We are wrong to assume that all low intermediates use it. They don't.

The uncommon connectives are a small part of the problem in speaking. However, we must also get students to expand their repertoire of connectives, in writing, if not in speaking. The data collected for this study indicate that the range of connectives used is much greater in number with speakers of higher proficiency, but unfortunately, the increase is directly proportional to the number of words they speak. In these data, there is no significant difference in the variety of conjunctions used in relation to different proficiency levels or socioeconomic classes when the total number of words spoken is taken into account.

Since many of the findings presented here suggest that we have misguided notions about the use of connectives, and materials to teach them are sparse, let us end on two optimistic notes. First, contrary to expectations (or perhaps we should say, "fear"), none of the evidence

from this study suggests that problems with conjunction are due to interference. That means you don't have to learn twenty-six languages to tackle this problem. You only have to contend with English. Secondly, textbook writers (e.g., Bodman and Lanzano, 1980) are beginning to pay attention to the need to teach cohesion.

NOTES

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2. In native English speech, it is possible, of course, to omit *if* from a conditional clause while retaining the conditional meaning. For example, we might say "You want to get to Europe cheap, fly stand-by." The first clause is generally marked by the rising intonation of a yes-no question, but it does not function as a question. However, in the example (5) of this paper, the lack of interrogative intonation and the subject's general language proficiency suggest that we must rule out the native omission of *if* in a functionally conditional clause.

3. The statistic was calculated by grouping the ALP students together since all frequencies were too low for all language groups except Thais.

4. It is possible for *but* to contain a denial of a cause-effect relation as in

    He swallowed a bottle of aspirin but he didn't die

which is the negation of

He swallowed a bottle of aspirin so he died.

In first language acquisition, Bloom et al. (1980) report that children use but to express a causal relation.

TABLE 1

DISTRIBUTION OF CONJUNCTIVE ADJUNCTS BY SEMANTIC CATEGORY

Semantic Category	Number of Conjunctive Adjuncts		
	Correct	Incorrect	Total
Additive	45	13	58
Adversative	63	10	73
Causal	76	18	94
Temporal	42	8	50
Other[a]	12	1	13
Total	238	50	288

[a]Includes 12 continuatives, all correct, and one conjunction, incorrect, whose semantic category was unclear.

TABLE 2

DISTRIBUTION OF FOUR TYPES OF ERROR IN CONJUNCTION

Types of Error	n	%
Omission	5	10
Insertion	14	28
Context	14	28
Substitution	17	34
Total	50	100

TABLE 3

DISTRIBUTION OF ERRORS BY FIRST LANGUAGE BACKGROUND

	# of Errors in Each Category of Error				
First Language	Omission	Insertion	Context	Substitution	Total
Thai	5	10	9	11	35
Japanese	0	1	0	0	1
Chinese	0	2	4	2	8
Korean	0	1	1	4	6
Total	5	14	14	17	50

TABLE 4

DISTRIBUTION OF ERRORS OF CONJUNCTION BY ERROR TYPE

AND SEMANTIC CATEGORY USED

Semantic Category Used	Error Type				
	Omission	Insertion	Context	Substitution	Total
Additive	1	4	3	5	13
Adversative	0	3	6	1	10
Causal	2	4	4	8	18
Temporal	2	2	4	0	8
Total	5	13[a]	17	14	49[a]

[a]One inserted conjunction (semantic category unclear) was not included in this table.

TABLE 5

PATTERNS OF SUBSTITUTION ERRORS

Semantic Category Needed	Semantic Category Substituted			
	Additive	Adversative	Causal	Temporal
Additive	X	X		
Adversative	X	X		
Causal		X	X	
Temporal			X	X

TABLE 6

TEMPORAL	TEMPORAL			
	causal	CAUSAL		
		adversative	ADVERSATIVE	
			additive	ADDITIVE
				adversative

UPPER CASE - Substitution in the same semantic category

lower case - Substitution in an adjacent semantic category

TABLE 7

Semantic Category Needed	Semantic Category Substituted	Number of Substitutions
Temporal	Temporal	3
	Causal	1
Causal	Causal	3
	Adversative	1
Adversative	Adversative	4
	Additive	2
Additive	Additive	1
	Adversative	2

References

Austin, . How to Do Things With Words.

Bates, Elizabeth. Language and Context: The Acquisition of Pragmatics. — New York: Academic Press, 1976.

Beebe, Leslie M. Socially Conditioned Variation in Bangkok Thai. Ph.D. dissertation, University of Michigan, 1974.

Bloom, Lois, Lahey, Margaret, Hood, Lois, Lifter, Karin, and Fiess, Kathleen. "Complex Sentences: Acquisition of Syntactic Connectives and the Semantic Relations They Encode." Journal of Child Language, in press.

Bodman, Jean, and Lanzano, Michael. No Cold Water Either. New York: Collier-Macmillan, 1980.

Chomsky, Noam. Syntactic Structures. The Hague: Mouton, 1957.

Chomsky, Noam. Aspects of the Theory of Syntax. Cambridge, Mass.: The M.I.T. Press, 1965.

Clancy, Patricia, Jacobsen, Terry, and Silva, Marilyn. "The Acquisition of Conjunction: A Cross-Linguistic Study." Papers and Reports on Child Language Development 12 (1976): 71-80.

Crystal, David, and Davy, Derek. Investigating English Style. Bloomington: Indiana University Press, 1969.

Ervin-Tripp, Susan, and Mitchell-Kernan, Claudia. Child Discourse. New York: Academic Press, 1977.

Halliday, M.A.K., and Hasan, Ruqaiya. Cohesion in English. London: Longman Group Ltd., 1976.

Harris, Zellig S. "Discourse Analysis." Language 28 (1952): 1-30.

Hatch, Evelyn. "Discourse Analysis in Second Language Acquisition." In Second Language Acquisition: A Book of Readings, pp. 401-435. Edited by Evelyn Marcussen Hatch. Rowley, Mass.: Newbury House, 1978.

Joos, M. "Description of Language Design." In Readings in Linguistics. New York: American Council of Learned Societies, 1958. Cited in Wilga M. Rivers. The Psychologist and the Foreign Language Teacher. Chicago: University of Chicago Press, 1964.

Katz, Jerrold J., and Fodor, Jerry A. "The Structure of a Semantic Theory." In The Structure of Language: Readings in the Philosophy of Language, pp. 479-518. Edited by Jerry A. Fodor and Jerrold J. Katz. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964.

Keller-Cohen, Deborah. "Repetition in the Non-Native Acquisition of Discourse: Its Relation to Text Unification and Conversational Structure." In New Directions in Discourse Processing. Advances in Discourse Processes, Vol. 2. Edited by Roy O. Freedle. Norwood, N.J.: Ablex Pub., 1979.

Kroll, B. "Ways Communicators Encode Propositions in Spoken and Written English: A Look at Subordination and Coordination." In Discourse Across Time and Space, pp. . Edited by E.O. Keenan and T. Bennett. SCOPIL, University of Southern California, Los Angeles, California, 1977. Cited in Ochs, 1979.

Lakoff, George. Irregularity in Syntax. New York: Holt, Rinehart and Winston, Inc., 1970.

Ochs, Elinor. "Planned and Unplanned Discourse." In Syntax and Semantics 12: Discourse and Syntax, pp. 51-80. Edited by Talmy Givon. New York: Academic Press, 1979.

Peck, Sabrina. "Child-Child Discourse in Second Language Acquisition." In Second Language Acquisition: A Book of Readings, pp. 383-400. Edited by Evelyn Marcussen Hatch. Rowley, Mass.: Newbury House, 1978.

Pike, Kenneth. Language in Relation to a Unified Theory of the Structure of Human Behavior. 2nd Ed. The Hague: Mouton and Co., 1967. Preliminary Edition: Part I, 1954; Part II, 1955; Part III, 1960. Glenwood, California: Summer Institute of Linguistics.

Sacks, Harvey. "An Initial Investigation of the Usability of Conversational Data for Doing Sociology." In Studies in Social Interaction, pp. 31-74. Edited by David Sudnow. New York: The Free Press, 1972.

Sacks, Harvey, Schegloff, Emanuel A., and Jefferson, Gail. "A Simplest Systematics for the Organization of Turn-Taking for Conversation." Language 50 (1974): 696-735.

Schegloff, Emanuel A. "Notes on a Conversational Practice: Formulating Place." In Studies in Social Interaction, pp. 75-119. Edited by David Sudnow. New York: The Free Press, 1972.

Searle, John R. Speech Acts: An Essay in the Philosophy of Language. London: Cambridge University Press, 1969.

Tarone, Elaine, Frauenfelder, Uli, and Selinker, Larry. "Systematicity/Variability and Stability/Instability in Interlanguage Systems." In Papers in Second Language Acquisition. Language Learning Special Issue No. 4 (January 1976), pp. 93-134. Edited by H. Douglas Brown.

Zamel, Vivian. "Re-evaluating Sentence-Combining Practice." TESOL Quarterly 14, 1 (1980): 81-90.